

## W-VACiMB

Medium voltage compact circuit breakers

# Unmatched reliability, efficiency and safety



Featuring IEC ratings of 17.5 kV, Eaton's W-VACiMB compact circuit breakers are global solutions for 50 and 60 Hz

### Industry-leading vacuum and solid insulation technology

- Leading the industry for over 80 years in vacuum interrupter innovation
- Reliably switches normal load currents and high-stress fault currents
- Features increased dielectric strength with solid insulation that is encapsulated in epoxy resin material

### Environmentally friendly

- Free of hazardous SF<sub>6</sub> gas that contributes to the greenhouse effect and associated climate change

### IEC rated

- Designed and third-party tested to the latest IEC 62271-100 and IEC 62271-1 standards
- Meets/exceeds the electrical and mechanical endurance requirements of E2 and M2 in accordance with IEC 62271-100

### Reliability, efficiency and safety

- Tested mechanically and electrically at ISO® 9001-certified factory
- Sealed from dust and contaminants that are prevalent in the mining industry, providing long, reliable equipment life
- Provides valuable space savings for applications, such as mining, where space is at a premium
- Endures much greater opening and closing under fault conditions than open air contact devices, providing longer equipment life in harsh environments
- Requires little maintenance other than routine inspections, keeping costs down
- Makes and breaks power in a sealed environment with no external arcing—a significant safety feature in mining applications where hazardous gasses can exist

### Versatility

- Protects transformers, capacitor banks, motors, busbar sections and cables
- Well-suited for special environment conditions, such as high altitude, light shock, vibration and high ambient temperature

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Eaton's W-VACiMB compact medium voltage circuit breakers are composed of three key elements: the vacuum interrupter (VI), epoxy resin encapsulated pole unit (EPU) and the universal mechanism assembly (UMA).

#### Vacuum interrupter

The vacuum interrupter is where current making and breaking occurs. Eaton's vacuum interrupter features high-performance copper-chrome contacts. The vacuum in the arc chamber protects the copper contacts from adverse effects, such as contamination and corrosion.

Diffuse discharge is characterized by very low arc voltage and short arc times, resulting in very low arc energy. Therefore, there is low contact wear for longer equipment life.

Eaton's vacuum interrupter is hermetically sealed, providing extensive integrity without required maintenance.



#### Encapsulated pole unit

Using solid dielectric insulation technology, the vacuum interrupter is encapsulated in the epoxy resin. This component is referred to as the encapsulated pole unit. By encapsulating the vacuum interrupter in epoxy resin, it is protected from mechanical impact and climatic conditions, such as moisture, humidity and dust. Because the material is vibration and shock proof, the EPU is extremely durable and long lasting.

Due to its mechanical strength, epoxy resin allows for a very compact design while achieving high current and interruption ratings. The smaller footprint enables the breaker to be used in much smaller spaces, enabling a high degree of circuit protection with minimal real estate.



#### Universal mechanism assembly

Eaton's UMA is a modular design that is common across all breakers, simplifying training, operation and inspection. This self-contained functional unit enables fast and easy installation.

Because the UMA requires low energy to operate motor close and trip, this Restriction of Hazardous Substances (RoHS)-compliant device is an environmentally friendly solution.

The UMA has a life of up to 30,000 mechanical operations, only requiring inspection every 10,000. Special plating increases mechanical life and prevents corrosion.

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